

CURABLE COATING COMPOSITIONS CONTAINING CARBAMATE FUNCTIONAL REACTIVE ADDITIVES

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CROSS-REFERENCE TO RELATED APPLICATION

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The present application is a divisional application of Serial No. 10/055,516, filed January 23, 2002, ^{now abandoned,} which is a divisional of U.S. Serial No. 09/464,309, filed December 15, 1999, issued as U.S. Patent No. 6,362,285, incorporation herein by reference.

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FIELD OF THE INVENTION

The instant invention relates to coating compositions comprising reactive additives. In particular, the invention provides coating compositions comprising a reactive additive comprising at least one compound having a molecular weight of from 131 to 2000 and at least one primary carbamate group and at least one alkyl group selected from the group consisting of straight chain alkyl groups of more than 10 carbons, branched alkyl group of from 5 to 30 carbons, and mixtures thereof.

BACKGROUND OF THE INVENTION

Curable coating compositions such as thermoset coatings are widely used in the coatings art. They are often used for topcoats in the automotive and industrial coatings industry. Color-plus-clear composite coatings are particularly useful as topcoats where exceptional gloss, depth of color, distinctness of image, or special metallic effects are desired. The automotive industry has made extensive use of these coatings for automotive body panels. Color-plus-clear composite coatings, however, require an extremely high degree of clarity in the clearcoat to achieve the desired visual effect. High-gloss coatings also require a low degree of visual aberrations at the surface of the coating in order to achieve the desired visual effect such as high distinctness of image (DOI).

As such, these coatings are especially susceptible to a phenomenon known as environmental etch. Environmental etch manifests itself as spots or marks on or in the finish of the coating that often cannot be rubbed out.

It is often difficult to predict the degree of resistance to environmental etch that a high gloss or color-plus-clear composite coating will exhibit. Many coating compositions known for their durability and/or weatherability when used in exterior paints, such as high-